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Definitions are provided of the following exceptionalities: blind, partially sighted, physically handicapped, minimally brain injured, deaf, educable mentally retarded (primary, junior, and senior high levels), trainable mentally retarded, speech handicapped, and emotionally disturbed. Architectural guidelines specify classroom location, size, acoustical treatment, heat and light, ventilation, electrical outlets, bulletin boards and chalkboards, floors, and drinking fountain, sink, and counter space. Additional specifications are given for certain exceptionalities. (JD)

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Texas Education Agency
Division of Special Education
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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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ARCHITECTURAL CONSIDERATIONS FOR CLASSROOMS FOR EXCEPTIONAL CHILDREN

- Blind
- Partially Sighted
- Physically Handicapped
- Minimally Brain Injured
- Deaf
- Educable Mentally Retarded (Primary Level)
- Educable Mentally Retarded (Junior High School Level)
- Educable Mentally Retarded (High School Level)
- Trainable Mentally Retarded
- Speech Handicapped
- Emotionally Disturbed

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CLASSROOM FACILITIES FOR BLIND PUPILS

Children designated as blind may be classified as follows:

> LEGAL BLINDNESS: Children who have central visual acuity of 20/200 or less (20/300, 20/400, etc.) in the better eye after all necessary correction (glasses if indicated),
>
> or
>
> who have a peripheral field so contracted that the widest diameter of such field subtends an angular distance no greater than 20 degrees.

RESOURCE ROOM

LOCATION

A resource room should be located in a building with enclosed corridors. Selection of elementary, junior high, or senior high school building site should be determined by the chronological ages and grade levels of the pupils. The resource room should be easily accessible to the regular classrooms which the pupils attend and be in an area which is relatively free from noise.

The selection of classroom facilities for the resource room for blind students should reflect the best thinking concerning the needs of all children.

SIZE

Classroom: Size of the resource room may be standard classroom size (30' x 30').

Storage space: Sturdy bookshelves on rollers should be constructed to accommodate vertical shelving of Braille and large type library and reference books (if central school library space is not available), Braille writers, Talking Books, paper and other materials. For each child a sturdy bookshelf mounted on rollers should be provided and placed in his regular classroom to accommodate his Braille or large type books and materials. A spacious and colorful storage cabinet on rollers should be provided for the teacher.

Cloakroom space: Each student may be assigned cloakroom or locker space in his regular classroom. If such space is not available to him, the teacher's storage cabinet may be designed to contain a coat rack for this purpose.

Restroom facilities: Easy access to restroom facilities in the building should be considered when determining the location of the resource room.

Doors: Doors should open toward the interior of the room and be located at room corners to allow the open door to rest next to the wall.

ACOUSTICAL TREATMENT

Every provision should be made to assure the absence of extraneous noise in the resource room and regular classroom areas where blind students are in attendance.

HEAT AND LIGHT

Heating: A central heating system appropriate to the needs of all children is desirable in the resource room.

Lighting: Fluorescent lighting, maintained at a minimum of 50 foot candles in the areas of the room where there are working surfaces, should be provided. Incandescent illumination is satisfactory if it is correctly installed, controlled, and maintained.

In order to control lighting efficiently, it may be desirable to construct a windowless resource room. Fluorescent lighting may be controlled at appropriate levels of brightness throughout the room by means of dual-control switches.

VENTILATION

Central air-conditioning systems are highly desirable for use in buildings where blind students are housed. If the buildings are not air-conditioned, careful thought should be given to the placement of windows and cooling equipment within the room to furnish adequate and safe ventilation and to prevent rapid circulation of air in certain areas within the room.

ELECTRICAL OUTLETS

Multi-socket electrical outlets should be located on each wall of the resource room at approximately 36 inches above floor level.

BULLETIN BOARDS AND CHALKBOARDS

One or two bulletin board areas which are accessible to the fingers of students may be provided. Perhaps one bulletin board area might be attached to one side of the teacher's movable storage cabinet. No permanent chalkboard areas are suggested.

FLOORS

Floors should be light in color in order to maintain a brightness ratio of approximately 10 to 1 between the work task and the floor. Highly waxed and polished floors cause glare and should not be used.

DRINKING FOUNTAIN, SINK AND COUNTER SPACE

Special facilities for drinking fountains, sinks, and counters do not need to be provided in the resource room.

OPTIONAL

A transparent curtain may be used to divide the resource room into two instructional areas. Attached to opposite walls of the room the curtain which folds like the bellows of an accordian, is easily pulled into place and retracted to the walls. Exits should be provided for both areas of the room.

SELF-CONTAINED ROOM

Occasionally, a program for blind children is provided in public schools in a self-contained classroom setting. Selection of classroom facilities for a self-contained room should follow the general guidelines for resource room facilities with the following exceptions:

SIZE

The size of the self-contained classroom should be 30' x 45' or one and one-half times as large as standard classroom size to provide greater storage area for books and equipment and a greater amount of study area for individualized instruction.

Storage space: Sturdy bookshelves which are specially designed to accommodate vertical shelving for all Braille and large type volumes used by all students should be built into the room.

CLASSROOM FACILITIES FOR PARTIALLY SIGHTED PUPILS

Children designated as partially sighted may be classified as follows:

LEGAL PARTIAL SIGHT: Children whose visual acuity is 20/70 or less (to legal blindness of 20/200) in the better eye after all necessary treatment and compensating lenses have been provided...

or

Children with a visual deviation from the normal (in the opinion of the eye specialist) who need and can benefit from the facilities provided for the partially sighted.

INTEGRATED PROGRAMS

An educational program for partially sighted students, which has as its objective maximum integration into the regular classroom with sighted pupils, may be designed either as a resource program or as an itinerant program.

LOCATION

A resource room for partially sighted students should be located in a building having enclosed corridors and housing regular classes of children of comparable chronological ages and grade levels. The resource room should be easily accessible to regular classrooms which the pupils attend, to exits, and restrooms. It should be located in an area which is relatively free from noise.

SIZE

Classroom: Size of the resource room should be of standard size, 30' x 30'.

Storage space: Sturdy bookshelves on rollers should be constructed to accommodate vertical shelving of large type textbooks (and library and reference books if school library space is not available), pieces of equipment, and other educational materials. A sturdy bookshelf mounted on rollers should be provided for each child and placed in his regular classroom to hold large type books and materials. A spacious and colorful storage cabinet on rollers should be provided for the teacher.

Cloakroom space: Each student may be assigned cloakroom or locker space in his regular classroom. If such space is not available to him, the teacher's storage cabinet may be designed to contain a coat rack for this purpose.

Restroom facilities: Easy access to restroom facilities in the building should be considered when determining the location of the resource room.

Doors: Doors should open toward the interior of the room and be located at room corners to allow the open door to rest next to the wall.

ACOUSTICAL TREATMENT

Every provision should be made to assure the absence of extraneous noise in the resource room and regular classroom areas where partially sighted students are in attendance.

HEAT AND LIGHT

Heating: A central heating system appropriate to the needs of all children is desirable in the resource room.

Lighting: Correct illumination is essential. Fluorescent lighting, maintained at a minimum of 50 foot candles at chalkboards, desks, and other areas of the room where there are working surfaces, should be provided. Incandescent illumination is satisfactory if it is correctly installed, controlled, and maintained.

In order to control lighting efficiently, it may be desirable to construct a windowless resource room. Fluorescent lighting may be controlled at appropriate levels of brightness throughout the room by means of dual-control switches.

Colors for classroom walls should be light with a dull finish to eliminate glare (light buff, light warm groups, dark cream or grayish green are suggested). The ceiling should be white, ivory, or light cream and should have at least an 80% reflective value.

Pictures should be hung at eye level and should be left uncovered or else covered with glare-proof glass. They should be located to assure proper lighting.

VENTILATION

Central air-conditioning systems are highly desirable for use in buildings where partially sighted students are housed. If the buildings are not air-conditioned, careful thought should be given to the placement of windows and cooling equipment within the room to furnish adequate and save ventilation and to prevent rapid circulation of air in certain areas within the room.

ELECTRICAL OUTLETS

Multi-socket electrical outlets should be located on each wall of the resource room at approximately 36 inches above floor level.

BULLETIN BOARDS AND CHALKBOARDS

One or two bulletin board areas placed within eye reach of students may be provided. Perhaps one bulletin board area might be attached to one side of the teacher's movable storage cabinet. One chalkboard in a properly lighted area is suggested.

FLOORS

Floors should be light in color in order to maintain a brightness ratio of approximately 10 to 1 between the work task and the floor. Highly waxed and polished floors cause glare and should not be used.

DRINKING FOUNTAIN, SINK AND COUNTER SPACE

Special facilities for drinking fountains, sinks, and counters do not need to be provided in the resource room.

CLASSROOM FACILITIES FOR THE PHYSICALLY HANDICAPPED

Physically Handicapped: Children of normal intelligence who are handicapped through congenital or acquired defects in the use of their bodies are considered physically handicapped. When they are unable to function with normal individuals of the same age, they may be provided for in a class at school. Some of the most frequent causes of children being eligible for classes of the physically handicapped are: crippling conditions, rheumatic fever, poliomyelitis, heart disease, cerebral palsy, nephritis, arthritis, muscular dystrophy, and tuberculosis. The nervous disorders included are epilepsy, encephalitis, and motor nerve disorder.

LOCATION

Classes for physically handicapped children should be located in a building that houses regular classes of children of the same ages and grades. This allows integration of the physically handicapped children into regular classes to the extent they are able and capable. All classrooms for the physically handicapped should be located on the ground floor and so selected that the children may reach the auditorium, cafeteria, library and health units with a minimum amount of travel and effort. The room should have an outside entrance and be readily accessible to the bus loading area.

SIZE

Classroom: Sixty square feet of floor space per child which will allow movement of wheelchairs, walkers, and other heavy equipment and provide space for furniture.

Storage space: Storage cabinets and cupboards should be constructed to accommodate wheelchairs and walkers not in use, book racks, cots, blankets, sheets, instructional materials (projection machines, films, filmstrips, charts, educational toys, 3' x 4' sheets of oaktag, news, print, construction paper, etc.) and books. All storage and cupboard space should be constructed with sliding wooden doors since physically handicapped children can slide doors that they cannot pull open.

Cloakroom space: Cloakrooms that will make room for wheelchairs should be placed within the classroom.

Restroom facilities: Cubicles within the restroom should be sixty inches wide and equipped with horizontal handrail and vertical or slant grab rail to accommodate pupils in wheelchairs. Stools with hand rails to fit children of various ages are needed. Urinals are necessary for some wheelchair students. Lavatories may be located outside the toilet compartment and with the necessary handrails. Towel dispensers should be placed approximately thirty inches from the floor.

Doors: Doors should be durable in nature with a minimum width of thirty-six to forty inches, equipped with kick plates for protection against wheelchairs and crutches; long grasping bars rather than knobs; automatic door checks to keep doors open for wheelchairs and crutch walkers; glass panels for swinging doors; and outside doors at ground level to avoid steps.

Windows: Windows should be placed low to permit easy vision for the children.

Ramps: The ramp slope should be no greater than one foot in ten feet for safety of wheelchair and crutch movement. Guarded edges or rails should be provided to prevent wheelchairs and crutches from going over edges. Handrails are necessary for children with walking difficulties.

Handrails: Walls in the halls should be provided with double handrails twenty-six inches and thirty-two inches from the floor. Rails no larger than 1" or $1\frac{1}{2}$" in diameter should be used. Handrails should be recessed or be without sharp corners.

HEAT, LIGHT, AND VENTILATION

Heating: Central heating, if possible, or heating facilities mounted from the ceiling so there would be no danger of children falling against the heating unit. Warm floors are needed since some physically handicapped children can work only on the floor.

Lighting: Lighting should conform to the best modern practice for any classroom with at least fifty foot candles on working surfaces.

Ventilation: Central air conditioning, if possible; otherwise, use standard schoolroom windows and transoms. Windows should be placed low to permit easy vision for the children.

ELECTRICAL POWER SUPPLY

Electrical outlets: A minimum of two, 110 A.C. base plug outlets on each wall should be provided for using individual filmstrip machines, electrical page turners, additional lighting facilities, etc.

Conduit for television: A conduit for installation of a television set should be considered.

Telephone jack: Provision for installation of a telephone in the classroom is desirable.

BULLETIN BOARDS AND CHALKBOARDS

Bulletin boards and chalkboards should be placed low enough to provide for children who work from wheelchairs. Handrails are essential on all stationary boards. A reversible chalk and bulletin board which can be moved about in the classroom in also desirable.

FLOORS

Floors may be covered with an unwaxed tile which prevents slipping or with carpeting.

DRINKING FOUNTAIN, SINK AND COUNTER SPACE

Drinking fountains in the halls should be recessed as a safety measure for pupils in wheelchairs and on crutches. They should be placed high enough above the floor (approximately twenty-six inches) and with an open area underneath that allows for the accommocation of wheelchairs. Sink and counter space in the classroom also should allow an open area underneath to provide for wheelchairs. Faucets for the hot and cold water in the sink should be placed so that pupils can hold onto and turn them with ease.

CLASSROOM FACILITIES FOR THE MINIMALLY BRAIN-INJURED

Minimally Brain-Injured: Children who are normal or above in intelligence but who have learning difficulties directly attributable to an organic defect caused by a neurological condition, and who are unable to adjust to or profit from a regular school program may be considered for classes for minimally brain-injured children. Characteristics of these children include hyperactivity, distractibility, impulsiveness and emotional instability as well as problems of perception.

LOCATION

Classes for minimally brain-injured children should be located in a building that houses regular classes of children of the same ages and grades. This allows integration of the minimally brain-injured children into regular classes to the extent they are capable of achieving. The room should be located in that part of the building farthest removed from noise areas (band hall, cafeteria, loading zones, etc.).

SIZE

Classroom: A standard sized classroom (30' x 30') which will allow individual study areas (cubicles) through the use of portable screens, a group activity area and space for each different aspect of the program.

Cloakroom space: Cloakroom space situated within the classroom and provided with adjustable hooks for the hanging of wraps and shelving for placement of other personal items is essential.

Storage space: Ample sized storage cabinets with sliding doors where equipment (reading and projection machines, screens, cots, etc.) and instructional materials (charts, educational games, films, filmstrips, books, art materials, etc.) not in use can be kept out of sight.

Restroom facilities: The restrooms should be the size of those used for individual classrooms and incorporated as a part of the classroom or located between two classrooms.

WINDOWS

Windows should be opaque or frosted with a special paint to a point above the eye level of the child to eliminate distracting visual stimuli.

HEAT, VENTILATION, AND LIGHT

Heating and ventilation: A dual system which provides central heating and air-conditioning is desirable.

Lighting: Lighting should conform to the best modern practice for any classroom with at least fifty foot candles on working surfaces.

CEILINGS AND WALLS

Ceilings and walls should be acoustically treated to eliminate as much noise as possible. Walls should be all one color preferably of subdued quality such as oyster white or light gray.

ELECTRICAL POWER SUPPLY

Electrical outlets: A minimum of two, 110 A.C. base plug outlets on each wall in the classroom for the minimally brain-injured to provide for reading machines, individual filmstrip machines, opaque projectors, tape recorders, earphones and additional lighting facilities.

FLOORS

Floors should be carpeted to eliminate noise factors.

SINK AND COUNTER SPACE

Sink and counter space in the classroom is essential to the success of the instructional program for minimally brain-injured children.

CLASSROOM FACILITIES FOR DEAF AND SEVERELY HARD OF HEARING PUPILS

Children whose sense of hearing is nonfunctional (after all necessary medical treatment, surgery, and/or use of hearing aids) for understanding normal conversation which results in a delay in the development of language and/or speech are considered deaf.

LOCATION

The school building which houses the room for deaf and/or severely hard of hearing children should be in a residential area of a community away from centers of constant noise but easily accessible from the standpoint of transportation. Furthermore, the room to be so utilized should be in a section of the building which is furthest removed from noisy activity centers (i.e., the cafeteria, auditorium, water fountains, playgrounds, etc.). The inside rooms from street locations are often more appropriate as are rooms toward the end of wings and upstair locations in multi-level facilities.

SIZE

Classroom: The classroom should be large enough to lend itself to a varied number of arrangements such as a corner for free-play, speech correction and auditory training, library table or reading corner, and work areas. In most instances, it may be approximately 25 x 25 square feet--somewhat smaller than a regular classroom. Bathroom facilities should be nearby but not necessarily adjacent to the classroom.

Storage: Ample storage space is needed within the classroom to store the many manipulative objects necessary for work with hearing handicapped children. This space should include low, open shelves for displays, books and toys; space for large charts and wall hangings, maps and globes; built-in cabinet for phonograph records and audio-materials.

Cloakroom space: Space should be provided with adjustable hooks for the hanging of wraps. Shelving for placement of lunch boxes and galoshes is also essential.

ACOUSTICAL TREATMENT

Reverberation distorts sound and adds to the difficulty of hearing easily and comfortably when using mechanical aids. The walls and ceiling of the classroom should be specially treated with sound proofing materials.

Draperies and rugs will absorb sound; their use is to be encouraged. If rugs are not to be utilized, wooden floors are preferable to concrete slabs even if the concrete slab is to be covered with rubber tiling or some similar block covering.

Venetian blinds, particularly the metal type, should not be utilized.

HEAT, LIGHT, AND VENTILATION

Heating and Ventilation: Dual systems which both air-condition and circulate heat would be best if centrally installed. Care should be exercised in selecting equipment which generates minimum amounts of operational noise. If a concealed observation room is adjacent to the classrcom, comparable heating and ventilation will be necessary.

Lighting: Every possible precaution should be taken to protect the eyes of a child with impaired hearing since vision is the chief avenue of his learning. Choose the room or proposed area that affords the greatest amount of natural light and avoid the glare resulting from shiny surfaces. The American standard practice for school lighting recommends a minimum maintained fifty foot candles in a classroom for pupils who require speechreading. This lighting level is measurable on desks and chalkboards. Care must be taken so that the lighting equipment does not produce an audible hum or click which could be picked up and amplified through the group auditory equipment. If the room to be utilized is adjacent to an observation area concealed by a one-way mirror, the light factor must be carefully considered.

ELECTRICAL OUTLETS

Electrical outlets: A minimum of two, 110 A.C. base plug outlets on each wall should be provided. If central air-conditioning is not to be installed, the room should be wired for a 220 volt outlet.

Amplification jacks should be placed at regular intervals along the walls and beneath the chalkboard so that pupils will be able to use their amplification equipment in all parts of the room.

Provision of a conduit for television should also be considered.

If the room has been designed to include a concealed observation area, an electrical outlet which would allow for installation of an inter-room communication system must be provided.

BULLETIN BOARDS AND CHALKBOARDS

Bulletin board space must be provided. This should be proportionally scaled so as to be at eye level for the children intended to occupy the room.

Green chalkboards of top quality should also be built into the walls at heights adjudged appropriate to the intended users.

DRINKING FOUNTAIN, SINK AND COUNTER SPACE

An appropriately sized counter and sink equipped with both hot and cold water is suggested. Though a soap dispenser is not requested, a paper towel dispenser is. A drinking fountain in conjunction with the cold water piping to the sink would be useful.

SPECIAL PROVISIONS

Wall Mirror: In most instances, concentrated speech development activities will be conducted daily in the same area of the classroom. A top quality mirror, approximately 3 feet wide by 4 feet long, secured firmly to the wall of the speech activity area would prove a most worthwhile addition.

Amplification equipment: Provision of amplification equipment, whatever the kind selected, is of prime importance. If the conventional group aid is to be utilized, the cords running from the amplifier should be permanently installed under a protective cover beneath the pupils' desks, or along the base of the chalkboard. If an ILA system is planned, the loop design may be placed either underneath the recommended carpeting or in some manner secured to or in conjunction with the walls.

CLASSROOM FACILITIES FOR EDUCABLE MENTALLY RETARDED PUPILS IN ELEMENTARY SCHOOLS

Children of elementary school age, who are unable to profit from regular classroom instruction and who meet specific criteria for enrollment in special classes for the educable mentally retarded, require adequate physical facilities for the conduction of a specially designed instructional program. The classroom should be designed to provide experiences and learnings involving free time activity, the use of large equipment, and educational play conducive to sequential learning thus affording the child every opportunity to become acquainted with and assist in gaining control over his immediate environment.

LOCATION

The classroom(s) should be located in a building on an elementary campus with pupils of comparable chronological age. In selecting a building, it is desirable to choose one that will offer maximum opportunities for participation in the non-academic activities of the school and for receiving the services of special service personnel.

SIZE

Classroom: A large classroom (1200 square feet) is recommended to accommodate areas of instruction relating to: physical competencies, language development, group interaction, and personal health habits.

Storage space: Shelves and cabinets should be low so materials are easily accessible. All shelving should be wide enough to accommodate large picture books and other large instructional materials. Shelf measurements $34\frac{1}{2}$ inches wide, 51 inches high, and 12 inches deep is appropriate for primary and intermediate units.

Cloakroom space: A locker should be available for each pupil enrolled. Movable units, either free-standing or lined up against the wall may be used. Lockers 45 inches high, 14 inches wide, and 12 inches deep are usually of appropriate size.

Restroom facilities: Easily accessible lavatory and toilet facilities should be provided for the pupils. If two units are housed in the same building, specially designed cloakrooms and toilets may be built between the two adjacent classrooms so the teachers can assist pupils without leaving the group. All restrooms should have floors and wainscoting of glazed tile or a material impervious to water.

ACOUSTICAL TREATMENT

The classroom may be acoustically treated with a type tile which can be repainted without loss of absorption value.

HEAT AND LIGHT

Heating: Radiant floor heating may be used which eliminates projecting heating elements that can be dangerous to mentally retarded children.

Lighting: For the classroom of educable mentally retarded pupils 50 foot candles on working surfaces are recommended. To maintain good brightness ratios the following reflective values for various surfaces are suggested: desk tops 40%, ceiling 85%, floors 30%, furniture 35%, walls 65%. Particular attention should be given to avoid glossy surfaces so as to eliminate glare. All lights in the 60° visual field should be shielded and window wall glare controlled with glare-reducing glass or blinds.

VENTILATION

"Climate-controlled" ventilation is desirable. If the building is not "climate controlled," properly placed windows and/or individual air-conditioning units may be used.

ELECTRICAL POWER SUPPLY

Electrical outlets: A minimum of two base plug outlets, grounded and covered for safety, on each wall should be provided.

Conduits for television and telephone circuits should be installed in the classroom or in an easily accessible space.

BULLETIN BOARDS AND CHALKBOARDS

Bulletin board space for the display of pupils' work and teaching aids and chalkboard space should be of approximately equal proportions.

FLOORS

Light colored floor covering which is easily cleaned is recommended. An area rug is suggested for one part of the room. If possible, a ceramic tile wainscoting may be installed, permitting easy cleaning of wall areas.

DRINKING FOUNTAIN, SINK AND COUNTER SPACE

A drinking fountain located in or near the classroom and which supplies chilled water is desirable. A counter containing a sink which affords both hot and cold running water is essential in the classroom for educable mentally retarded children in both primary and intermediate classrooms.

CLASSROOM FACILITIES FOR EDUCABLE MENTALLY RETARDED STUDENTS IN THE JUNIOR HIGH SCHOOL

Youth of junior high school age, who are unable to profit from regular classroom instruction and who meet specific criteria for enrollment in special classes for the educable mentally retarded, require special facilities in order that they may profit from a specially designed instructional program. Such a schoolroom should facilitate instruction in areas of physical competencies, personal and social adjustment, and prevocational skills and attitudes.

LOCATION

The specially equipped room(s) should be located in a junior high school building or, in case of special organization, in a building where pupils of comparable chronological age groups are housed. It is desirable that the room be located so that its occupants will not be isolated from the curricular, co-curricular, and extra curricular activities which occur in the building. It is also suggested that the facility be located in an area of the school district where student transportation will not create unusual problems. It is especially important that the location allow ease of transportation into the business district.

SIZE

Classroom: It is recommended that at least sixty square feet of floor space be provided with a minimum of 1200 square feet allowed for the classroom. In every case, the classroom should be as large as, or larger than other standard classrooms in the building since it accommodates several different kinds of instructional areas such as: library-type activities, home and family living, various job-tasks, arts and crafts projects, and fine arts.

Storage space: Provision should be made for sufficient storage space immediately adjacent to a family-type cook stove, for dry food supply, refrigerated food supply, dishes, tableware, and pots and pans. There should be provision also for the storage of instructional materials such as: projectors, television receivers and arts and craft supplies. A storage cabinet for an ironing board and other clothing maintenance equipment is important.

Cloakroom space: There should be sufficient storage space provided for the individual pupils' outdoor clothing, school books and papers.

Restroom facilities: The standard facilities provided in the building for other students are satisfactory.

HEAT AND LIGHT

Heating: Central heating is desirable.

Lighting: Lighting should conform to the best modern practice for any classroom with at least 50 foot candles on general working surfaces. Special work areas need more illumination.

VENTILATION

Ventilation: The installation of cook stoves and water heaters should meet the same standards used in the kitchen facilities of homemaking departments. "Climate controlled" ventilation for the classroom is desirable.

ELECTRICAL POWER SUPPLY

Electrical outlets: Installation of special electrical wiring should be provided to care for electrical tools and equipment used in the arts and crafts area. A minimum of two grounded base plug outlets on each wall should be provided.

Conduits for television and telephone circuits should be installed in the classroom or in an easily available adjacent space.

BULLETIN BOARDS AND CHALKBOARDS

Chalkboards of good quality and bulletin boards, as well as display areas for completed craft projects should be available in the rooms.

FLOORS

Floors: The types of activities determine the floor coverings which would be most suitable in the classroom(s). Carpeting would be suitable for the library area but the area for kitchen activities and arts and crafts would require a floor coverning which is easily cleaned. It is suggested that different types of coverings be utilized in the classroom(s) in order that proper floor care of various materials may be taught.

DRINKING FOUNTAIN, SINK AND COUNTER SPACE

Drinking fountain, sink and counter space: A drinking fountain within the classroom is desirable but not essential. A counter with a minimum length of eight feet should be available in the classroom to provide additional storage. It should have a sink with both hot and cold running water.

CLASSROOM FACILITIES FOR EDUCABLE MENTALLY RETARDED STUDENTS IN THE HIGH SCHOOL

Young men and women between the ages of 16 and 21 who are unable to utilize their intellectual assets in such a way as to make possible their development in the regular classroom, may be expected to profit from special educational facilities designed to promote development of physical competencies, personal and social competencies and vocational proficiencies.

LOCATION

The classes should be located in a building with students of comparable chronological age. In selecting a building, it is desirable to choose one that will offer the greatest number of opportunities to participate in the activities of the school, to use the equipment and other facilities and to receive the services of the special teaching staff such as nurse, counselor, speech correctionist, shop, homemaking, art and physical education teachers. It is desirable that the classes be in a centrally located school building convenient to students in all parts of the school district. Neither the classroom nor the students should be segregated from the total school population. Ease of transportation into the business district is essential.

SIZE

Classroom: It is recommended that a minimum of 1200 square feet be allowed for the classroom. The classroom should be designed to provide pre-vocational and vocational experiences for the children assigned. The physical features should be flexible enough to offer a variety of arrangements of furnishings. There should be space enough for:

- individual activity
- group activity
- arts and crafts projects
- working with simple tools
- practicing household arts
- personal grooming activities
- vocational evaluation
- assembly or production line job experinces
- teacher office space with telephone

Storage space: Ample storage space should be provided in the classroom. The storage space should be of both the open and closed varieties, with some spaces being of the locked type.

a. Open storage should be provided for such items as library materials, hand tools, and typewriters.

b. Closed storage space should be provided for such items as arts and crafts supplies, student projects, visual aid equipment, household arts equipment and supplies.

ACOUSTICAL TREATMENT

The classroom should be treated acoustically so as to prevent the noise of the various activities in the classroom from disturbing nearby classes.

LIGHT

Lighting: Illumination of 50 foot candles should be provided for general work. Special work centers will need more illumination.

ELECTRICAL POWER SUPPLY

Electrical outlets: Numerous grounded outlets should be provided in each wall to allow for flexible arrangements within the classroom (at least four outlets in each wall). A telephone should be located in the classroom or an adjoining office to assist the teacher in making contacts with employers.

BULLETIN BOARDS AND CHALKBOARDS

Bulletin board and chalkboard space: Twenty lineal feet of chalkboard and twenty lineal feet of bulletin board are recommended. Movable partitions may contain a small chalkboard and bulletin board.

FLOORS

Floors: The floor should be covered with a "commercial type" non-skid material which is light in color and easy to maintain.

BUILT-IN FEATURES

Home and family living unit: Comprised of sink with hot and cold water, range, refrigerator, ample work space and cabinet space to store dishes and utensils such as found in an efficiency apartment.

Display area: The display area should be large enough to exhibit crafts work and serve as a means of exploring various jobs and give students an opportunity to arrange a variety of goods and products.

CLASSROOM FACILITIES FOR TRAINABLE MENTALLY RETARDED

Children between the ages of 6-21 who are incapable of being educated through ordinary classroom instruction or special education facilities for the educable mentally retarded children shall be considered trainable mentally retarded. They may be expected to benefit from training in a group setting designed to promote social adjustment and develop skills needed for daily living.

LOCATION

The classroom or suite of rooms for younger trainable mentally retarded pupils may be located either in an elementary school building or in a house or building removed from the regular school. For the older pupils it is desirable to locate the classroom(s) in a building separate from the school. The building, however, should be located near a school campus and the program assigned to the building principal and/or special education coordinator.

SIZE

Classroom: It is recommended that sixty square feet of floor space per child be provided for each pupil with additional space in the room for large pieces of equipment such as a piano, stove, refrigerator, cabinet, workbench, record player, tables and filing cabinets. A room approximately 30 feet by 45 feet may be considered adequate.

Storage space: Storage space including open shelves, closed cupboards and bins for toys, clay and concrete articles is needed. Special storage space to accommodate cots and instructional supplies should be provided.

Cloakroom space: Cloakroom facilities situated within the classroom which provide each individual pupil with space for the hanging of wraps and shelving for placement of other personal items are essential.

Restroom facilities: The restrooms should be a part of the classroom unit because of the activities centering around grooming and self-help in personal habits. They should be the size of those used for individual classrooms with fittings scaled in size to suit the children enrolled. All restrooms should have floors and wainscoting of glazed tile or a material impervious to water, etc.

Doors: Doors should be wider in width with a minimum of thirty-six inches to accommodate the moving in and out of large pieces of equipment and furniture.

HEAT, LIGHT, AND VENTILATION

Heating: Central heating is desirable but a heating system which is as safe as possible is essential for trainable mentally retarded children.

Lighting: Lighting should conform to the best modern practice for any classroom with at least 50 foot candles on working surfaces. Particular attention should be given to glossy surfaces to eliminate glare.

Ventilation: "Climate-controlled" ventilation is desirable. If the building is not "climate controlled," properly placed windows and/or individual air-conditioning units may be used.

ELECTRICAL POWER SUPPLY

Electrical outlets: A minimum of two base plug outlets on each wall in the classroom for the trainable mentally retarded is essential.

Conduits for television and telephone circuits should be installed in the classroom or in an easily available adjacent place.

BULLETIN BOARDS AND CHALKBOARDS

Bulletin board space as well as display areas for completed craft projects should be available but only a minimum of chalkboard space is needed.

FLOORS

Floors: The floor should be covered with a "commercial type" non-skid material which is light in color and easy to maintain.

DRINKING FOUNTAIN, SINK, AND COUNTER SPACE

A drinking fountain located in or adjacent to the classroom is essential.

Sink and counter: Running water, both hot and cold, are necessities in order to properly develop the activities centering around economic usefulness and self-care.

SAFETY FEATURES

Entrances and exits: The classroom should have a minimum of two exits with one leading directly to the outside. The outside exit should be readily accessible to the bus loading area.

Fenced play area is of prime importance.

Fire alarm system: If the class is located in a separate building, a fire alarm system needs to be provided.

Safety glass: Consideration may be given to the use of safety glass in windows in classrooms for younger mentally retarded children.

CLASSROOM FACILITIES FOR EXCEPTIONAL CHILDREN

SPEECH AND HEARING THERAPY

DEFINITION

Children whose speech deviates so far from the speech of others that it attracts attention, interferes with communication, or causes maladjustment are considered speech handicapped.

Children who have a hearing loss of 20 decibels or more in at least two frequencies in the speech range or a loss of 30 decibels on one frequency in the speech range in the better ear shall be considered mildly hard of hearing.

LOCATION

Classes for speech and hearing handicapped children should be located in a building with children of comparable chronological age and grade level. The room should be located in a section of the building where it is relatively quiet but with accessibility to waiting area, secretarial services, and other special service personnel.

SIZE

Therapy room: Two hundred square feet of space is considered adequate for a speech and hearing therapy room.

Storage space: Storage space should consist of a small locked cabinet, two-drawer file case with lock, and approximately four feet of linear space to serve as shelving.

ACOUSTICAL TREATMENT

The ceiling of the therapy room should be specially treated with sound proofing material.

HEAT AND LIGHT

Heating: A dual system which provides both air-conditioning and central heating is desirable. Space heaters may be used if central heating is unavailable.

Lighting: At least 50 foot candles on working surfaces should be provided. One window with shade will provide sufficient natural lighting.

Ventilation: The therapy room should contain one window which can be opened or equipped with air-conditioning.

ELECTRICAL POWER SUPPLY

Electrical outlets: A minimum of two 110 v double plugs conveniently located will be adequate to serve electrical equipment. Additional built-in wiring may be installed for a master control unit with four to six headsets and microphones.

BULLETIN BOARDS AND CHALKBOARDS

Chalkboard: One 3' x 6' chalkboard mounted on wall at appropriate height for children should be provided.

Bulletin board: One 4' x 4' bulletin board mounted on wall is adequate for therapy room.

Mirror(s): One 2' x 4' mirror mounted on wall at appropriate height for children.

FLOORS

Floors may be carpeted to eliminate noise factors and provide warmth.

DRINKING FOUNTAIN, SINK AND COUNTER SPACE

No special requirement.

CLASSROOM FACILITIES FOR EMOTIONALLY DISTURBED PUPILS

Emotionally disturbed children are those seventeen years of age, or under, who evidence inability to relate realistically with the program of a public school and who are unable to function near capacity mentally, socially and emotionally. The age of the child, the size of the class, and the type of class operation will modify architectural planning for the emotionally disturbed. The following suggestions seem appropriate to elementary school, self-contained classrooms for children six through ten years of age.

LOCATION

The classroom should be located in a section of the building with other classes of comparable chronological age. The class should preferably be on the ground floor situated so as to be relatively near an outside exit yet relatively isolated from the main flow of traffic. These two conditions frequently imply a compromise. The class should be separated as much as possible from sources of auditory distraction.

SIZE

Classroom: A suite of rooms consisting of a waiting room or office, a classroom and a conference room is desirable. In lieu of this a classroom of standard size (30' x 30') or larger that would accommodate learning and activity centers is recommended.

Conference space: A room easily accessible to the classroom and approximately 150 square feet in size is recommended for individual counseling.

Offices (Individual work centers): Space for individual "offices" or work centers may be along one side and possibly an end wall of the classroom. Offices should be wide enough to prevent a child in one office from bothering a child in the next office. Office partitions should be movable.

Windows: Window space could be reduced and placed at a higher level than ordinary for greater control of visual stimuli. Some theoretical positions would dictate skylights in lieu of windows.

Restroom facilities: Restrooms may be of standard size for individual classrooms and should either be adjacent to or within the classroom.

HEAT, LIGHT, AND VENTILATION

Heating: Central heating is desirable but a heating system which is as safe as possible is essential for emotionally disturbed children.

Lighting: Lighting should conform to the best modern practice for any classroom with at least 50 foot candles on working surfaces.

Ventilation: Central air-conditioning is desirable but properly placed windows and/or individual air-conditioning units may be used.

ELECTRICAL POWER SUPPLY

Electrical outlets: A minimum of two base plug outlets on each wall in the classroom for the emotionally disturbed is essential.

Conduits for television and telephone circuits should be installed in the classroom or in an easily available adjacent place.

BULLETIN BOARDS AND CHALKBOARDS

Partitions separating the "offices" (individual study centers) should contain a chalkboard on one side and a bulletin board on the other for use of each individual pupil.

WALLS

Walls may have a wainscoting of glazed tile beyond the height of the children's reach.

DRINKING FOUNTAIN, SINK AND COUNTER SPACE

A drinking fountain should be either adjacent to or within the classroom.

A sink within the room is not mandatory but many teachers would benefit from its installation as the presence of plumbing determines one area for certain student activities.